Components For COVID19 Outbreak Control Model: A System Dynamics Perspective

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ABSTRACT

The world is facing a massive challenge as the COVID-19 outbreak strikes across the globe. Many efforts have been made to detect, control and contain the coronavirus proactively and aggressively before a further catastrophe occurs. Indeed, ending the global COVID-19 pandemic is not a simple task. It requires adequate planning and implementation of sustainable strategies and interventions to control COVID-19 from keep spreading globally. One way to address this issue is using System Dynamics (SD). With this aim in mind, this paper presents an initial COVID-19 modelling work in the formulation stage of SD methodology. A literature review was carried out on published and unpublished papers to understand the essential outbreak model design structure. Within this process, a total of 15 COVID-19 models in SD were gathered and analysed. As the outcome, this paper highlights the components of the conceptual representation model for the COVID-19 outbreak, which later can serve as the core basis for modelling complex COVID19 outbreak dynamics and interventions for future development. As an implication, a comprehensive model can be developed to support decision making.

KEYWORDS: Conceptual Representation Model, Model Components, Model Structures, COVID-19 Model, System Dynamics

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